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EXAMINER	
MURPHY, RHONDA L	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/893,441	BERNHEIM ET AL.	
	Examiner	Art Unit	
	Rhonda Murphy	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 24 January 2008.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-29,32-34,38-42,45-47,52 and 55-62 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-29,32-34,38-42,45-47,52 and 55-62 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 20 June 2005 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This communication is responsive to the amendment filed on 1/24/08. Accordingly, claims 30, 31, 35-37, 43, 44, 48-51, 53, 54 have been canceled and claims 1-29, 32-34, 38-42, 45-47, 52 and 55-62 are currently pending in this application.

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Response to Arguments

3. Applicant's arguments with respect to claims 37, 50 and 55-58 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a

person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 – 3, 8-10, 21-28, 38-41, 43, and 59-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zendle (US 6,865,170) in view of Sinha et al. (US 6,94,188) and Lampe et al. (US 2002/0114346 A1).

Regarding claim 1, Zendle teaches a point to multipoint communication system for providing broadband wireless communication between a first computer network (Fig. 7; PSTN) and one or more other computer networks (CPE; col. 10, lines 5-9 and 42-43) comprising:

a hub (Hub 704-n) comprising: an interface to the first computer network (illustrated by links connecting hub 704-n to local telephony service node to the PSTN); a plurality of primary communication link interfaces (Fig. 6A, antennas 602, 603 and 604; col. 7, lines 5-9);

and a plurality of nodes (subscribers 716) geographically spaced apart from the hub (refer to Fig. 7), each one of said nodes comprising: an interface to at least one of the other computer networks (col. 10, lines 5-9 and 42-43; subscriber 716 contain indoor units 806, which interface with CPE 810); and a remote communication link interface (col. 7, lines 5-9; col. 9, lines 35-39; a remote communication link interface must be present in order to communicate with the hub);

whereby, for each node, at least one primary communication link is established between the remote communication link interface at the node and at least one of the plurality of primary communication link interfaces at the hub (col. 7, lines 5-9)

wherein for each of the plurality of nodes, the remote communication link interface is adapted to operate on one of a plurality of channels such that the node can communicate with the hub over the primary communication link (col. 7, lines 5-9).

Zendle fails to explicitly disclose a redundant communication link between the remote communication link interfaces of the hub and each node.

However, Sinha teaches a redundant communication link (col. 8, lines 9-11, via one or more standby antennas) established between the remote communication link interface (the standby antenna includes a redundant communication link interface) at the node and the redundant communication link interface at the hub (Fig. 3, col. 7, lines 65-67; col. 8, lines 1-11, between the users and base station 300).

In view of this, it would have been obvious to one skilled in the art to modify Zendle's system by including a redundant communication link between the hub and node, in order to provide redundant means of communication for supporting traffic.

Zendle fails to explicitly disclose a plurality of primary communication link interfaces each including a modem.

However, as illustrated in Fig. 6B, the interfaces (antennas 602, 603 and 60n) are each connected to a Hub IDU and it is well known in the art for Hub IDUs to include a modem.

Therefore, it would have been obvious to one skilled in the art to include a modem for each primary communication link interface, for the purpose of processing data transmitted via the communication link interfaces.

The combined teaching of Zendle and Sinha teach a redundant communication link interface. Zendle and Sinha fail to explicitly disclose a redundant communication link interface including a redundant modem distinct from said plural modems.

However, Lampe teaches a redundant communication link interface including a redundant modem distinct from said plural modems (Fig. 2; secondary modem pool 154; page 3, paragraph 19).

In view of this, it would have been obvious to one skilled in the art to include a redundant modem distinct from plural modems, so as to provide a redundant modem usable as a standby modem to support the transfer of communication data when the plural modems are unavailable.

The combined teaching of Zendle and Sinha teach a redundant communication link interface. Zendle fails to teach the redundant communication link which serves the service area sector in which the node is located.

However, Sinha further teaches the redundant communication link which serves the service area sector in which the node is located (col. 8, lines 4-12; Fig. 3).

Thus, it would have been obvious to one skilled in the art to include a redundant communication link serving the service area sector of the node, in order to provide redundant means of communication for a node in a particular service area sector.

Regarding claim 2, Zendle teaches a second hub (704-5) comprising: an interface to a second computer network (Fig. 7, world wide web) different from the first computer network and the one or more other computer networks; a second plurality of primary communication link interfaces (Fig. 6, antennas 602, 603 and 604; col. 7, lines 5-9); and a second plurality of nodes (subscribers 716) geographically spaced apart from either the second hub (refer to Fig. 7), each one of said second plurality of nodes comprising: an interface to a computer network other than the first or second computer network or said one or more other computer networks (col. 10, lines 5-9 and 42-43; subscriber 716 contain indoor units 806, which interface with CPE 810); and a remote communication link interface (col. 7, lines 5-9; col. 9, lines 35-39; a remote communication link interface must be present in order to communicate with the hub); whereby, for each of said second plurality of nodes, at least one primary communication link is established between the remote communication link interface at the node and at least one of the plurality of primary communication link interfaces at the second hub (col. 7, lines 5-9).

Zendle fails to explicitly disclose a second redundant communication link between the remote communication link interfaces of the hub and each node.

However, Sinha teaches a second redundant communication link (col. 8, lines 9-11, via one or more standby antennas) established between the remote communication link interface (the standby antenna includes a redundant communication link interface) at the node and the redundant communication link interface at the second hub (Fig. 3, col. 7, lines 65-67; col. 8, lines 1-11, between the users and base station 300).

In view of this, it would have been obvious to one skilled in the art to modify Zendle's system by including a second redundant communication link between the hub and node, in order to provide redundant means of communication for supporting traffic.

Regarding claim 3, Zendle teaches a broadband wireless communication system comprising bursty data (col. 1, lines 11-18; col. 8, lines 53-55).

Regarding claim 8, Zendle teaches at least one of the primary communication link interfaces provides a substantially independent primary communication link to each of at least two nodes (col. 7, lines 5-9).

Regarding claim 9, the combined system of Zendle and Sinha teach a redundant communication link, but fails to explicitly disclose the communication capacity of the redundant communication link interface as substantially the same as the communication capacity of one of said plurality of primary communication link interfaces. However, it would be obvious for the redundant link communication capacity to be substantially the same as that of the primary communication link interface, since the redundant link is provided as back-up to support the same data originally transmitted in the primary communication link.

Regarding claims 10, 28 and 41, Zendle teaches each of the plurality of primary communication link interfaces operatively connected to a first communication processor (col. 6, lines 42-44; hub indoor units 622 contain communication processors).

Regarding claims 21 and 59, Zendle teaches a communication system wherein at least one of said first computer network or of said one or more other computer networks is a public switched telephone network (Fig. 7, PSTN).

Regarding claims 22 and 60, Zendle teaches a communication system wherein at least one of said first computer network or of said one or more other computer networks is a public switched telephone network, but fails to explicitly disclose a private branch exchange (PBX). It would have been obvious to one skilled in the art to include a PBX for the purpose of communicating with a private owned business.

Regarding claims 23 and 61, Zendle teaches a communication system wherein at least one of said first computer network or of said one or more other computer networks is a router (Fig. 7, service node 708).

Regarding claims 24 and 62, Zendle teaches a communication system wherein at least one of said first computer network or of said one or more other computer networks is the Internet (Fig. 7, Internet service node).

Regarding claim 25, the combined method of Zendle, Sinha and Lampe teach the same limitations described above in the rejection of claim 1. Zendle further teaches a plurality of primary communication link interfaces each associated with a primary sector of a service area (col. 7, lines 3-9), wherein each of the plurality of primary communication links operates on a channel unique from the channels on which the other primary communication links operate (col. 6, lines 21-22).

Zendle fails to explicitly teach a redundant communication link interface associated with a redundant sector of said service area.

However, Sinha teaches a plurality of redundant communication link interfaces associated with a redundant sector of said service area (col. 8, lines 4-11, one or more standby antennas).

In view of this, it would have been obvious to one skilled in the art to modify Zendle's system by including a redundant communication link interface associated with a redundant sector, in order to provide redundant means of communication for supporting traffic.

Zendle fails to explicitly teach a greater number of primary communication link interfaces than the number of redundant communication link interfaces. However, Sinha teaches a greater number of primary communication link interfaces than the number of redundant communication link interfaces (col. 8, lines 9-11, one or more standby antennas).

Therefore, it would have been obvious to one skilled in the art to provide a greater number of primary communication link interfaces than the number of redundant communication link interfaces, since the redundant communication link interface is a backup interface that is utilized less frequently than the primary communication link interfaces.

The combined teaching of Zendle and Sinha teach a redundant communication link interface. Zendle fails to explicitly teach redundant communication links operating on a channel unique from the channels on which the primary communication links operate.

However, Examiner takes official notice that it would have been obvious for each of the plurality of redundant communication links to operate on a channel unique from the channels on which the primary communication links operate since multiple channels are assigned to cell sectors.

Regarding claim 38, Zendle teaches a point to multipoint communication system for providing broadband wireless communication between a first computer network (Fig. 7; PSTN) and one or more other computer networks (CPE; col. 10, lines 5-9 and 42-43) comprising:

a hub (Hub 704-n) comprising: an interface to the first computer network (illustrated by links connecting hub 704-n to local telephony service node to the PSTN); a plurality of primary communication link interfaces (Fig. 6A, antennas 602, 603 and 604; col. 7, lines 5-9);

and a plurality of nodes (subscribers 716) geographically spaced apart from the hub (refer to Fig. 7), each one of said nodes comprising: an interface to at least one of the other computer networks (col. 10, lines 5-9 and 42-43; subscriber 716 contain indoor units 806, which interface with CPE 810); and a remote communication link interface (col. 7, lines 5-9; col. 9, lines 35-39; a remote communication link interface must be present in order to communicate with the hub);

whereby, for each node, at least one primary communication link is established between the remote communication link interface at the node and at least one of the plurality of primary communication link interfaces at the hub (col. 7, lines 5-9);

wherein for each of the plurality of nodes, the remote communication link interface is adapted to operate on multiple channels such that the node can communicate with the hub over the primary communication link (col. 7, lines 5-9; multiple channels also described in col. 6, lines 30-36).

Zendle fails to explicitly disclose a redundant communication link between the remote communication link interfaces of the hub and each node.

However, Sinha teaches a plurality of redundant communication links (col. 8, lines 9-11, via one or more standby antennas) established between the remote communication link interface (the standby antenna includes a redundant communication link interface) at the node and the redundant communication link interface at the hub (Fig. 3, col. 7, lines 65-67; col. 8, lines 1-11, between the users and base station 300).

In view of this, it would have been obvious to one skilled in the art to modify Zendle's system by including a redundant communication link between the hub and node, in order to provide redundant means of communication for supporting traffic.

Zendle fails to explicitly disclose a plurality of primary communication link interfaces each including a modem.

However, as illustrated in Fig. 6B, the interfaces (antennas 602, 603 and 60n) are each connected to a Hub IDU and it is well known in the art for Hub IDUs to include a modem.

Therefore, it would have been obvious to one skilled in the art to include a modem for each primary communication link interface, for the purpose of processing data transmitted via the communication link interfaces.

The combined teaching of Zendle and Sinha teach a redundant communication link interface. Zendle and Sinha fail to explicitly disclose a redundant communication link interface including a redundant modem distinct from said plural modems.

However, Lampe teaches a redundant communication link interface including a redundant modem distinct from said plural modems (Fig. 2; secondary modem pool 154; page 3, paragraph 19).

In view of this, it would have been obvious to one skilled in the art to include a redundant modem distinct from plural modems, so as to provide a redundant modem usable as a standby modem to support the transfer of communication data when the plural modems are unavailable.

The combined teaching of Zendle and Sinha teach a redundant communication link interface. Zendle fails to teach the redundant communication link which serves the service area sector in which the node is located.

However, Sinha further teaches the redundant communication link which serves the service area sector in which the node is located (col. 8, lines 4-12; Fig. 3).

Thus, it would have been obvious to one skilled in the art to include a redundant communication link serving the service area sector of the node, in order to provide redundant means of communication for a node in a particular service area sector.

Regarding claims 26 and 39, the combined method of Zendle and Sinha teach primary communication link interfaces as described in the rejection of claims 25 and 38. Sinha further teaches at least one directional antenna for each sector and at least one standby antenna for each sector. Therefore, indicating the number of primary communication link interfaces equaling the number of redundant communication link interfaces (col. 8, lines 9-11).

Regarding claims 27 and 40, Zendle teaches each of said plurality of primary communication link interfaces operatively connected to a unique one of a plurality of communication processors (Fig. 6B; antennas 602-60n and communication processors located within hub indoor units 622).

Regarding claim 43, the combined method of Zendle and Sinha teach primary communication link interfaces as described in the rejection of claims 25 and 38. Sinha further teaches a greater number of primary communication link interfaces than the number of redundant communication link interfaces (col. 8, lines 9-11, one or more standby antennas).

3. Claims 4 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zendle, Sinha and Lampe as applied to claim 1 above, and further in view of Stanwood et al. (US 6,731,946).

Regarding claim 4, Zendle teaches primary communication links operating in the millimeter frequency range (col. 1, lines 12-15). Zendle fails to explicitly disclose at least one of the primary communication links as adaptive time division duplexed.

However, Stanwood teaches communication links operating in the millimeter frequency range (col. 10, lines 4-6) and adaptively time division duplexed (col. 29, lines 12-16).

In view of this, it would have been obvious to one skilled in the art to modify Zendle's system by incorporating adaptive time division duplexed communication links,

for the purpose of adjusting the time slots allocated to uplink and downlink times to provide the most efficient transfer of user data from the user to the base station.

Regarding claim 5, Zendle teaches the system described above in the rejection of claim 4, but fails to explicitly disclose adaptive time division duplexing as dynamically adjustable as a function of the forward and reverse data traffic on the primary communication link.

However, Stanwood teaches adaptive time division duplexing as dynamically adjustable as a function of the forward and reverse data traffic on the primary communication link (col. 29, lines 12-16).

In view of this, it would have been obvious to one skilled in the art to modify Zendle's system by incorporating a dynamically adjustable adaptive time division duplexed system, for the purpose of adjusting the time slots allocated to uplink and downlink times to provide the most efficient transfer of user data from the user to the base station.

Regarding claim 6, the combined system of Zendle and Sinha teach redundant communication links and Zendle further teaches communication links operating in the millimeter frequency range.

The combined system of Zendle and Sinha fail to teach said redundant communication link as adaptive time division duplexed.

However, Stanwood teaches communication links adaptively time division duplexed (col. 29, lines 12-16).

In view of this, it would have been obvious to one skilled in the art to modify Zendle and Sinha's system by incorporating redundant adaptive time division duplexed communication links, for providing back-up communication links that adjust the time slots allocated to uplink and downlink times to provide the most efficient transfer of user data from the user to the base station.

Regarding claim 7, Zendle teaches the system described above in the rejection of claim 6, but fails to explicitly disclose adaptive time division duplexing as dynamically adjustable as a function of the forward and reverse data traffic on the redundant communication link.

However, Stanwood teaches adaptive time division duplexing as dynamically adjustable as a function of the forward and reverse data traffic on the primary communication link (col. 29, lines 12-16).

In view of this, it would have been obvious to one skilled in the art to modify Zendle's system by incorporating a dynamically adjustable adaptive time division duplexed system, for the purpose of adjusting the time slots allocated to uplink and downlink times to provide the most efficient transfer of user data from the user to the base station.

4. Claims 11 – 20, 29, 32,33,34, 42, 45 – 47, 52 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zendle, Sinha and Lampe as applied to claim 10 above, and further in view of Carney (US 6,011,785).

Regarding claims 11, 29 and 42, the combined system of Zendle and Sinha teach redundant communication link interfaces and communication processors. Zendle and Sinha fail to explicitly disclose the redundant communication link interface operatively connected to a second communication processor.

However, Carney teaches redundant communication link interface operatively connected to a second communication processor (Fig. 1, DSPs 18, col. 3, lines 57-59).

In view of this, it would have been obvious to one skilled in the art to modify Zendle and Sinha's system by including a redundant communication link interface operatively connected to a second communication processor, in order to support additional channels as traffic increases.

Regarding claims 12 and 44, the combined system of Zendle and Sinha teach redundant communication link interfaces and communication processors. Zendle further teaches a plurality of primary communication link interfaces each associated with a primary sector of a service area (col. 7, lines 3-9). Zendle fails to explicitly teach a redundant communication link interface associated with a redundant sector of said service area.

However, Sinha teaches a redundant communication link interface associated with a redundant sector of said service area (col. 8, lines 4-11).

In view of this, it would have been obvious to one skilled in the art to modify Zendle's system by including a redundant communication link interface associated with a redundant sector, in order to provide redundant means of communication for supporting traffic.

Regarding claim 13, Sinha teaches a redundant sector substantially coextensive with one or more of said primary sectors (col. 8, lines 4-11).

Regarding claim 14, the combined system of Zendle and Sinha teach redundant communication link interfaces and communication processors. Zendle further teaches each of said plurality of primary communication link interfaces as a radio module (Fig. 6, antennas 602, 603 and 604). Zendle fails to explicitly disclose a redundant communication link interface as a radio module.

However, Sinha teaches a redundant communication link interface as a radio module (col. 8, lines 9-11; standby antennas).

In view of this, it would have been obvious to one skilled in the art to modify Zendle's system by including a radio module as a redundant communication link interface, in order to wirelessly provide redundant means of communication for supporting traffic.

Regarding claim 15, the combined system of Zendle, Sinha and Carney teach communication link interfaces as radio modules. Examiner takes official notice that it is well known in the art for radio modules to be adapted to facilitate rapid field replacement, for the purpose of modifying a system to support the change in communication capacity.

Regarding claim 16, the combined system of Zendle, Sinha and Carney teach the same limitations described above in claim 11. Furthermore, Sinha further teaches a second redundant communication link interface (col. 8, lines 9-11; one or more standby antennas).

Regarding claim 17, the combined system of Zendle, Sinha and Camey teach redundant communication link interfaces. Sinha further teaches a second redundant communication link interface establishes a redundant communication link with a node other than a node of said plurality of nodes (col. 8, lines 9-11).

Regarding claim 18, the combined system of Zendle, Sinha and Camey teach communication processors. Camey further teaches a first communication processor is a first modem and said second communication processor is a second modem (Fig. 1, DSPs as modulators and demodulators).

Regarding claim 19, Examiner takes official notice that it is well known in the art for modems to be multiport modems. It would have been obvious to one skilled in the art to include multiport modems for the purpose of supporting multiple channels.

Regarding claim 20, Examiner takes official notice that it is well known in the art for modems to be capable of transmitting and receiving said data at multiple levels of information density. It would have been obvious to one skilled in the art to realize modems are capable of transmitting and receiving data at multiple levels of information density, for the purpose of providing data rates that optimizes bandwidth usage.

Regarding claims 32, 33, 34, 45, 46 and 47, the combined method of Zendle, Sinha and Camey teach primary and redundant sectors. Zendle further teaches cell sectors ranging in sector width from 15 to 90 degrees (col. 7, lines 3-4). Therefore, it would have been obvious to one skilled in the art to include primary and redundant sectors of 30, 45, 60 or 90 degrees in azimuth, in order for the antennas to transmit within a particular range in the cell sector.

Regarding claim 48, Zendle teaches each of the plurality of primary communication links operates on a channel unique from the channels on which the other primary communication links operate (col. 6, lines 21-22).

Regarding claim 49, Examiner takes official notice that it would have been obvious for each of the plurality of redundant communication links operates on a channel unique from the channels on which the primary communication links operate since multiple channels are assigned to cell sectors.

Regarding claim 52, in addition to the teachings described above in the rejection of claim 51, Examiner takes official notice that at least one of the following steps are well known in the art for determining an undesirable link condition: (a) detecting the loss of communications for a predetermined amount of time; (b) detecting a bit error rate greater than a predetermined threshold; (c) detecting a signal attribute outside a predetermined range; (d) detecting a signal to noise ratio less than a predetermined threshold; or (e) detecting a carrier to noise ratio less than a predetermined threshold.

It would have been obvious to one skilled in the art to include at least one of the above steps for determining undesirable link condition, for the purpose of receiving an indication that a channel is incapable of effectively transmitting data.

Regarding claim 53, Zendle further teaches each of the plurality of primary communication links operates on a channel unique from the channels on which the other primary communication links operate (col. 6, lines 19-29).

Regarding claim 54, Examiner takes official notice that it would have been obvious for each of the plurality of redundant communication links to be capable of operating on

one of a first plurality of channels unique from the channels on which the primary communication links operate, since multiple channels are assigned to cell sectors.

Regarding claim 55, the combined method of Zendle, Sinha and Lampe teach the same limitations described above in the rejection of claim 38. Zendle further teaches establishing communications over at least one of the plurality of primary communication links between the hub and one or more nodes of said plurality of nodes (col. 7, lines 5-9), wherein for each of the plurality of nodes, the remote communication link interface is adapted to operate on a second plurality of channels which includes said first plurality of channels such that the node can communicate with the hub over the primary communication link (col. 7, lines 5-9; second plurality of channels also described in col. 6, lines 19-23 and 30-36).

Zendle fails to explicitly disclose determining an undesirable link condition for the primary communication link serving one node of said plurality of nodes; and establishing communications over the redundant communication link serving said one node.

However, Sinha teaches standby antennas.

It would have been obvious to one skilled in the art to determine an undesirable link condition for the primary communication link serving one node of said plurality of nodes; and establishing communications over the redundant communication link serving said one node, for the purpose of providing redundant means of communication for supporting traffic.

5. Claims 56 – 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zendle, Sinha, Lampe and Carney as applied to claim 55 above, and further in view of Jeon (US 6,097,928).

Regarding claim 56, the combined system of Zendle and Sinha teach redundant communication links. Zendle and Sinha fail to explicitly disclose wherein the step of establishing communications over the redundant communication link comprises the step of: dynamically selecting the channel over which the redundant communication link will operate such that the redundant communication link channel is the same as the channel over which the failed primary communication link operated.

However, Jeon teaches dynamically selecting the channel over which the redundant communication link will operate such that the redundant communication link channel is the same as the channel over which the failed primary communication link operated (col. 2, lines 20-40).

In view of this, it would have been obvious to one skilled in the art to modify the system so that the redundant link channel operates on the same channel as the failed primary communication link, in order to continue to transmit data over the same channel when a failure occurs.

Regarding claim 57, the combined system of Zendle and Sinha teach redundant communication links. Zendle and Sinha fail to explicitly disclose wherein the step of establishing communications over the redundant communication link comprises the step of: dynamically selecting the channel over which the redundant communication link will

operate such that the redundant communication link channel is different than the channel over which the failed primary communication link operated.

However, Jeon teaches dynamically selecting the channel over which the redundant communication link will operate such that the redundant communication link channel is different than the channel over which the failed primary communication link operated (col. 3, lines 9-21).

In view of this, it would have been obvious to one skilled in the art to modify the system so that the redundant link channel operates on a different channel as the failed primary communication link, in order to transmit data over a different channel when a failure occurs.

Regarding claim 58, the combined system of Zendle and Sinha teach redundant communication links. Zendle and Sinha fail to explicitly disclose wherein the step of establishing communications over the redundant communication link comprises the step of: dynamically selecting the channel over which the redundant communication link will operate such that the redundant communication link channel is different than the channel over which the failed primary communication link operated and is different than the channel over which each operating primary and secondary communication links is operating.

However, Jeon teaches dynamically selecting the channel over which the redundant communication link will operate such that the redundant communication link channel is different than the channel over which the failed primary communication link

operated and is different than the channel over which each operating primary and secondary communication links is operating (col. 4, lines 45-56).

In view of this, it would have been obvious to one skilled in the art to modify the system so that the redundant link channel is different than the primary link and secondary link, so as to transmit data over a separate channel when a failure occurs.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda Murphy whose telephone number is (571) 272-3185. The examiner can normally be reached on Monday - Friday 9:00 - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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